Collaboration for Airport Land-Use Compatibility

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**Washington State
Department of Transportation**

The National Picture

19,600 Total Airports in the U.S.

14,300 Closed to the public

5,300 Open to the public

- 500 Primary and Commercial Service Airports

- 2,900 Reliever and GA Airports

- 1,900 Non-NPAIS Airports

On average, the U.S. loses 1 GA airport each week

Preserving the Nation's Aviation System

- Understanding the encroachment problem

- State airport land use programs

- A collaborative approach to compatibility

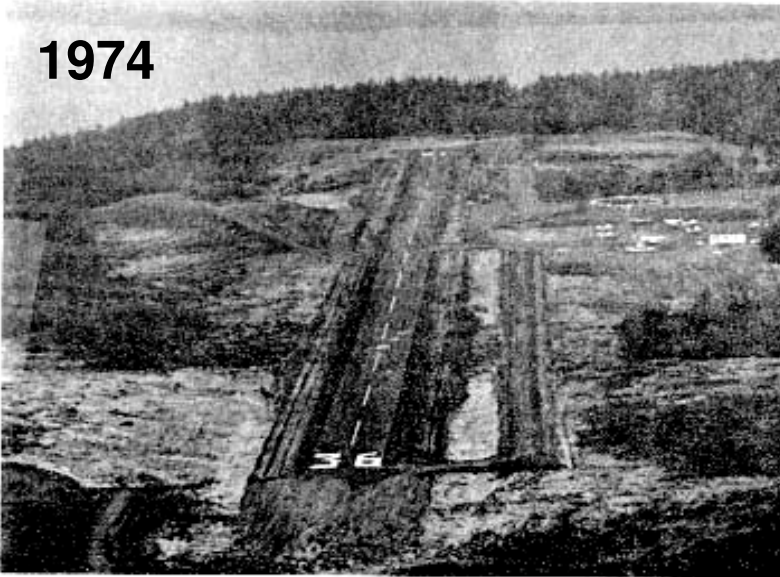- Next steps

Poor Planning – A Threat to Our Nation's Airports

There are two kinds of airports:

1) Those that **DO** have encroachment problems . . .

2) . . . And those that **WILL** have encroachment problems!

Airports and their Neighbors
The Encroachment Challenge

1974

1986

1995

Airports and their Neighbors
The Encroachment Challenge

Contributing Factors:

- Urban areas are expanding and pursuing dense development

- Airports are surrounded by undeveloped land

- Local land use authorities not always well informed about adverse impacts on the airport

Airports and their Neighbors
The Encroachment Challenge

Consequences of Conflict:

- Degraded Airport Operations

- Impeded Airport Expansion

- Hampered Economic Development

- Reduced Quality of Life

What is Compatible?

Aviation-Related

Industrial / Commercial

Agriculture

What is Incompatible?

Wildlife Attractants

Height Hazards

Dense Residential Development

State's Interest in Aviation
Washington State Aviation Policy

Preservation
Aviation facilities and services should be preserved to provide access for all regions of the state to the nation's air transportation system.

Safety
Transportation by air should be safe.

Capacity
There should be sufficient airport capacity to respond to growth in demand.

Environmental Protection
The negative environmental impacts of airports on people and the natural environment should be mitigated.
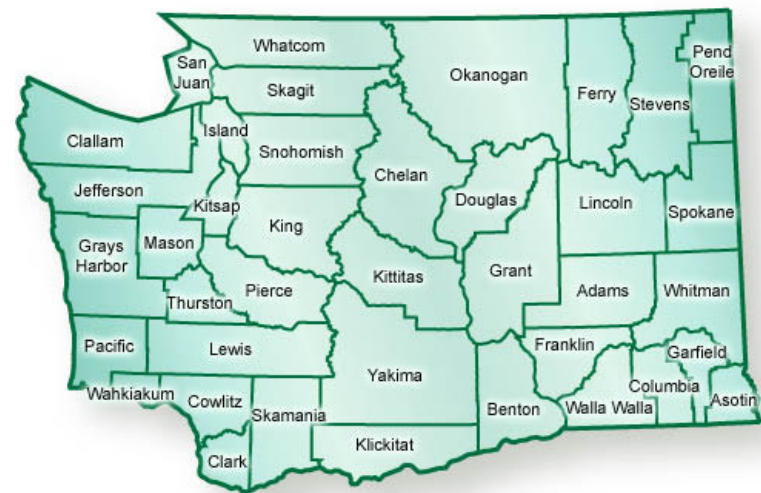
Legislated Collaboration
Airports and Washington's Growth Management Act

▪ Airports are Essential Public Facilities

▪ Towns, cities and counties must discourage incompatible land uses

▪ Towns, cities and counties must consult with aviation interests

▪ **WSDOT Aviation must provide technical assistance to provide a collaborative approach to local solutions**

A Collaborative Approach to Compatibility
## WSDOT Aviation's Technical Assistance Program

Finding solutions through a flexible, hands-on approach

- Facilitate Coordination

- Present Program Overview

- Provide Tools and Resources

- Answer Questions

- Review Draft Policies and Regulations

- Provide Public Comment on Comprehensive Plan

- Provide Testimony to Growth Management Hearings Board

A Collaborative Approach to Compatibility

Jurisdiction Process:

Request Technical Assistance

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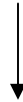
Identify Compatibility Issues

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Apply Tools

↓

Develop a Policy Foundation

↓

Adopt Development Regulations

Step 1: Identify Compatibility Issues

Research, Research,

Research!

- Comprehensive Plan

- Airport Master Plan

- Airport Characteristics

- Topography

- Existing Land Uses

- Zoning

- Hearings Board Cases

Step 2: Apply the Tools

Height Obstructions:

FAR Part 77:
Imaginary Surfaces

HEIGHT HAZARD AIRSPACE ZONES

PROTECTED AIRSPACE

HORIZONTAL SURFACE

TRANSITION SURFACE

APPROACH SURFACE
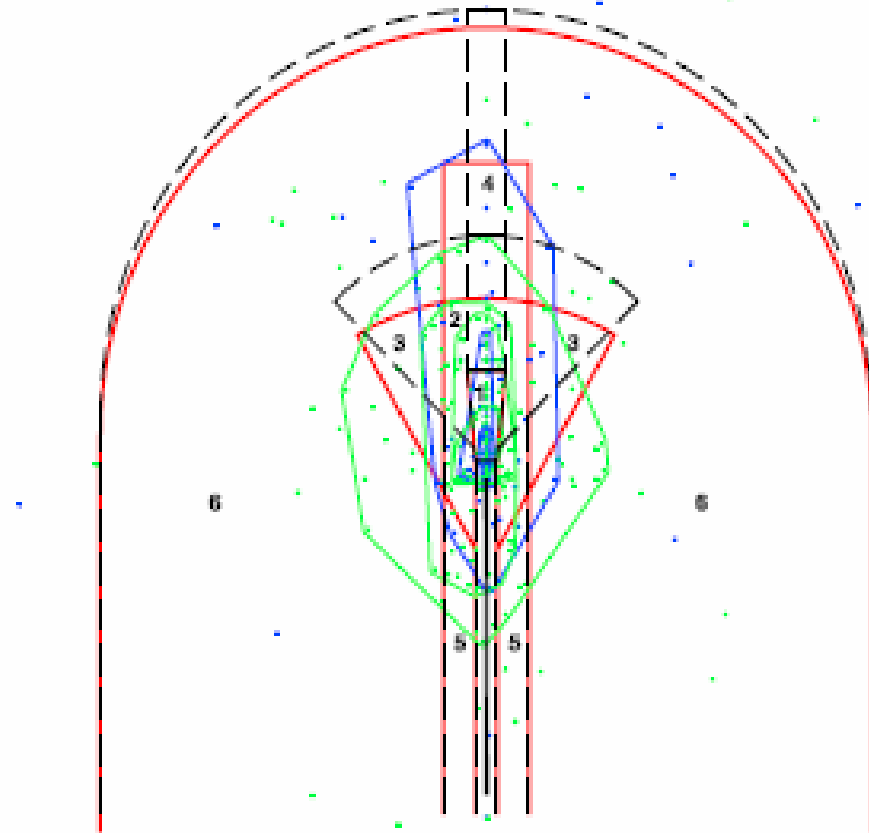
APPROACH SURFACE

PRIMARY SURFACE
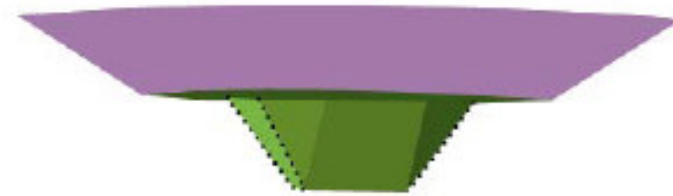
CONICAL SURFACE
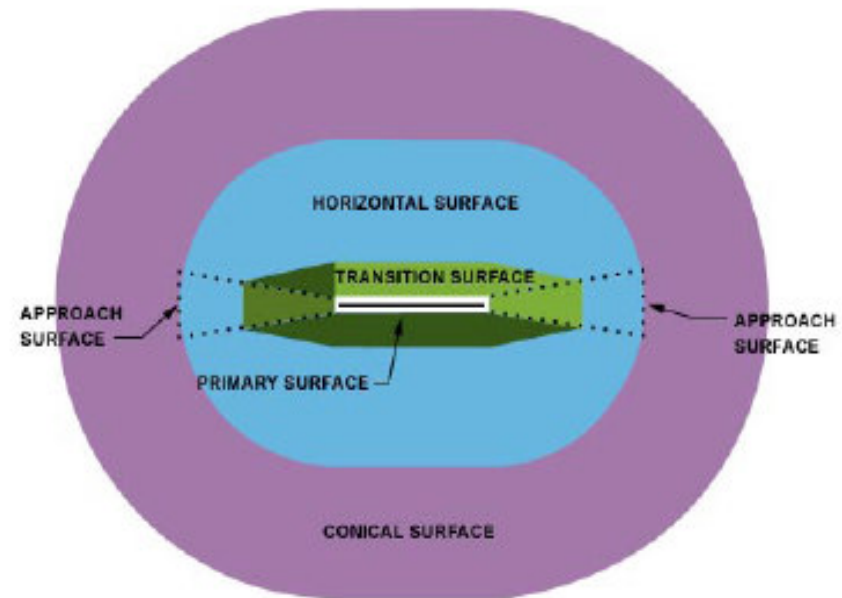
OVERHEAD VIEW

Step 2: Apply the Tools
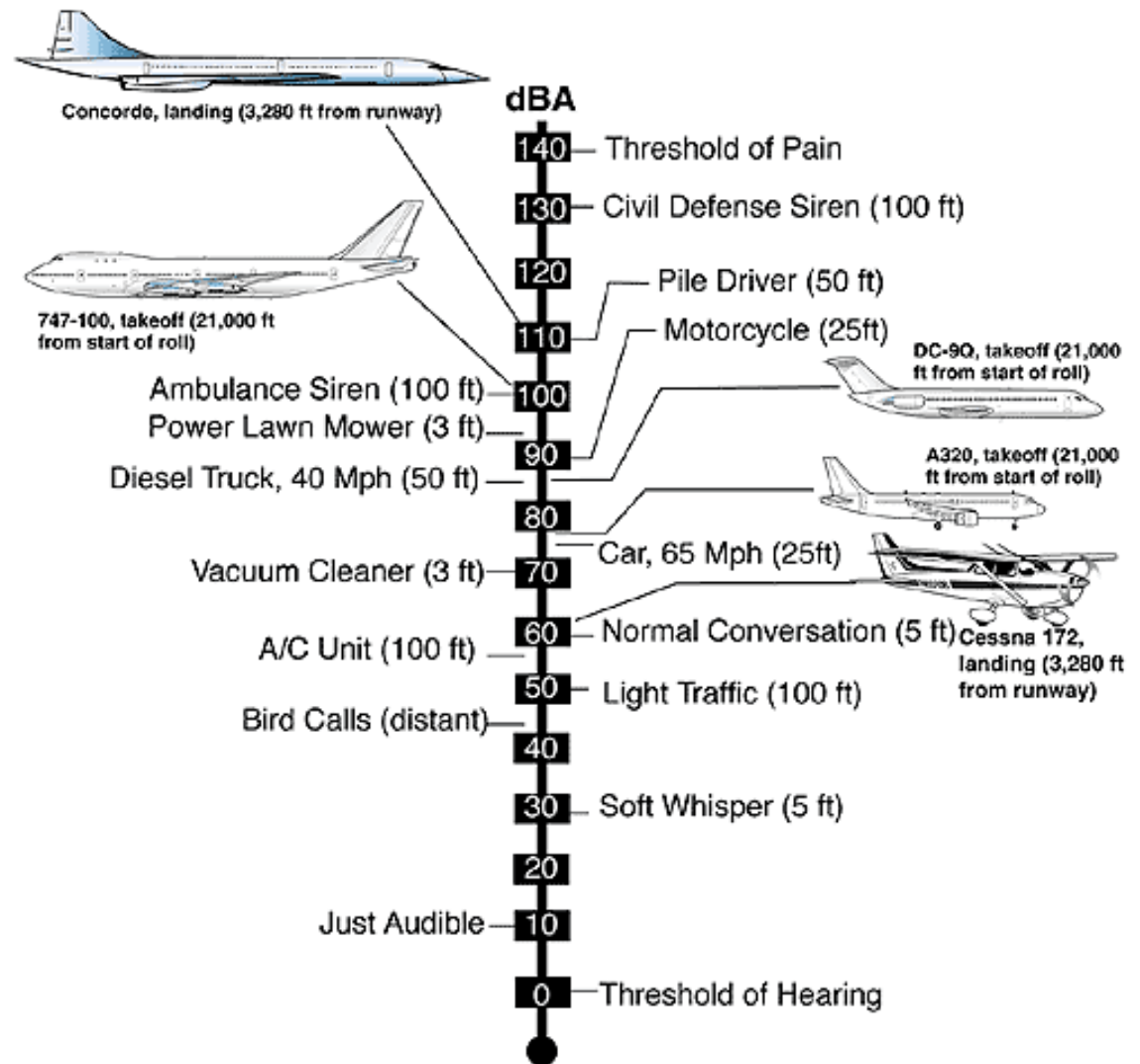
**Historical Aircraft
Accident Data:**

Accident Safety Zones

California: *Airport Land Use Planning Handbook*, 2002

Step 2: Apply the Tools

Noise:

FAR Part 150

Overflight Areas

Concorde, landing (3,280 ft from runway)

dBA

140 — Threshold of Pain

130 — Civil Defense Siren (100 ft)

120

— Pile Driver (50 ft)

747-100, takeoff (21,000 ft from start of roll)

110 — Motorcycle (25ft)

DC-9Q, takeoff (21,000 ft from start of roll)

Ambulance Siren (100 ft) — 100

Power Lawn Mower (3 ft) —

90

A320, takeoff (21,000 ft from start of roll)

Diesel Truck, 40 Mph (50 ft) —

80

— Car, 65 Mph (25ft)

Vacuum Cleaner (3 ft) — 70

Cessna 172, landing (3,280 ft from runway)

A/C Unit (100 ft) — 60 — Normal Conversation (5 ft)

50 — Light Traffic (100 ft)

Bird Calls (distant) —

40

30 — Soft Whisper (5 ft)

20

Just Audible — 10

0 — Threshold of Hearing

Step 3: Develop a Policy Foundation

Describe existing and proposed airport facilities and operations

"The airport is a NPAIS general aviation airport, and has 60 based aircraft. The runway is 5,000 feet long and 60 feet wide."

Recognize airports as an Essential Public Facilities

"Encourage the protection of the airport as an Essential Public Facility"

Discourage development of incompatible uses

"Encourage the protection of the airport from adjacent incompatible land uses and/or activities that could impact the present and/or future use of the airport"

Recognize the significance of the airport for economic development

"Protect the viability of the airport as a significant economic resource to the community by encouraging compatible land uses and densities"

Step 4: Adopt Development Regulations

Prohibit airspace obstructions

"Except as necessary and incidental to airport operations, no building or structure shall be constructed, altered, or maintained so as to penetrate the airspace surfaces."

Limit residential density and non-residential intensity

"Within each compatibility zone, certain land use limitations are established in addition to the land uses of the underlying zoning."

Prohibit high-intensity and special function land uses

"The public assembly of people and other uses that allow public concentration of people such as multi-family, hospitals, schools, etc. shall be prohibited."

Step 4: Adopt Development Regulations, cont.

Encourage clustering to preserve open areas

"Development should be oriented so as to preserve areas of open space under the extended runway centerline."

Require aviation activity notice

"The subject property is located within an Airport Overlay district in which a variety of aviation activities occur. Such activities may include but are not limited to noise, vibration, chemicals, odors, hours of operation and other associated activities."

How Are We Doing in Washington?

51 towns, cities and counties have adopted or are working with WSDOT Aviation to adopt policies and regulations
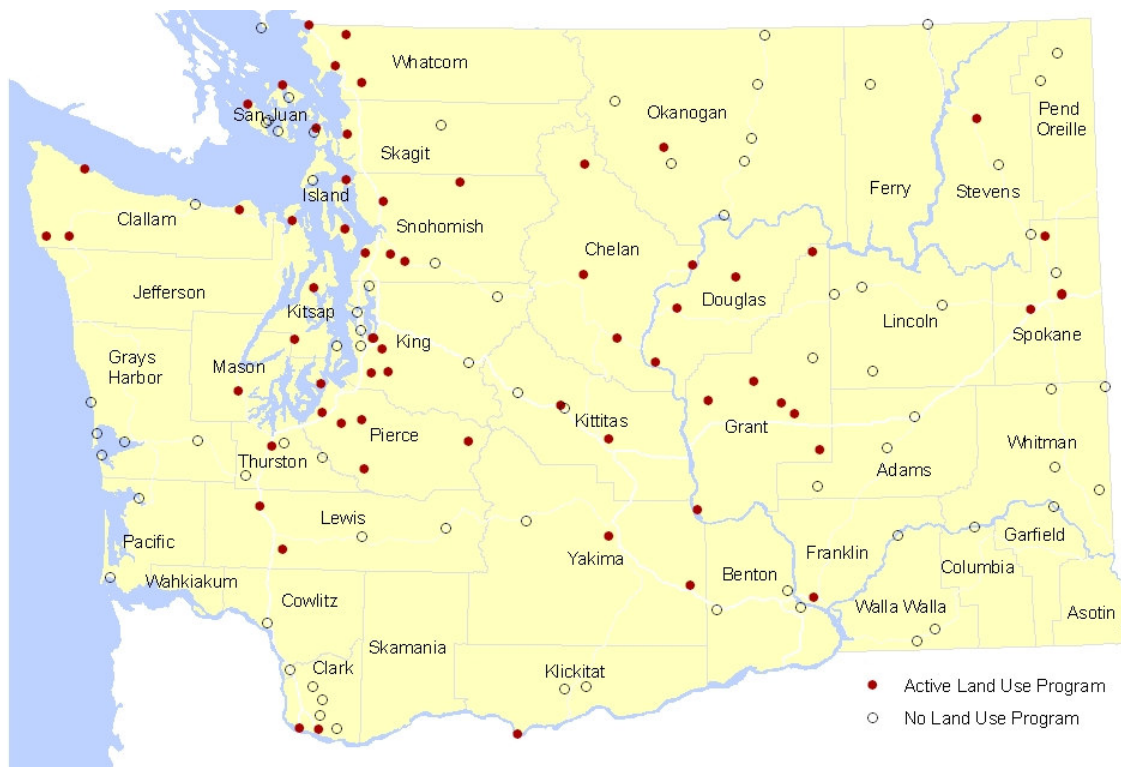

2005 Program Evaluation Recommendations:

- Enhance coordination

- Develop flexibility in land use criteria

- Modify existing Aircraft Accident Safety Zones

- Update the guidebook

What's Next?

- Conduct planning seminars

- NASAO Memorandum of Understanding to establish national guidelines and reference materials

- Update guidelines and provide step-by-step guides for planners
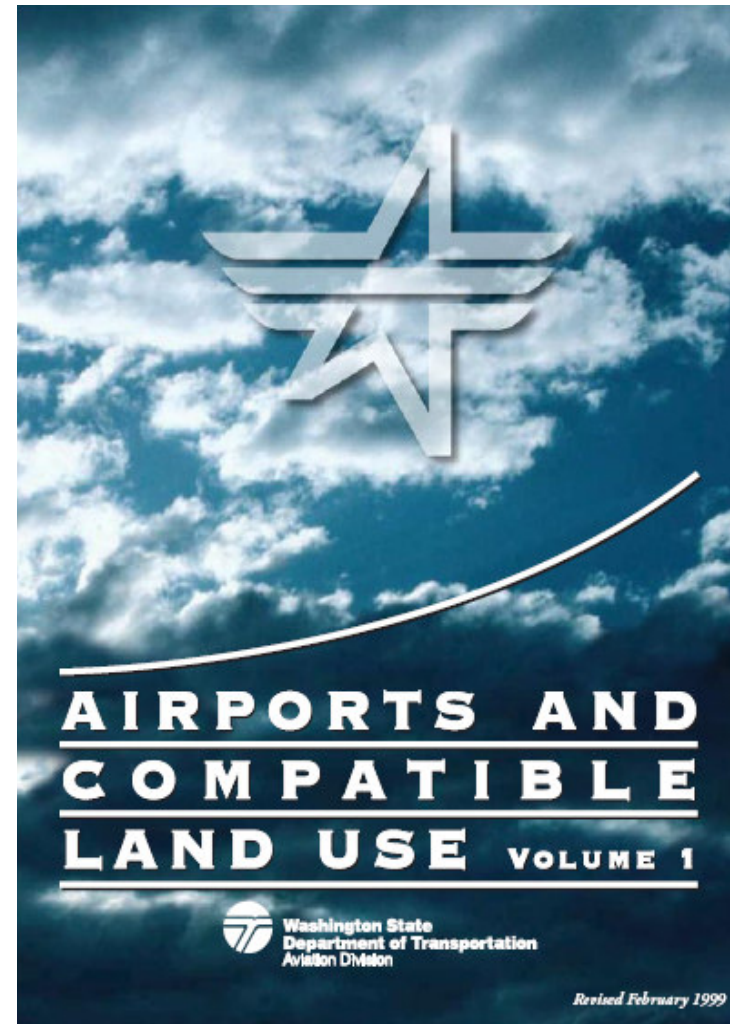
www.wsdot.wa.gov/aviation/planning

What Can the APA Do?

- Address urban density near airports in APA policies

- Recognize airports as Essential Public Facilities

- Promote integration of aviation planning:
  - transportation planning
  - economic development
  - planning education

$\longrightarrow$ **Airport Land Use Compatibility Evaluation**

Resources

WSDOT Aviation Airport Land Use Compatibility Program:
www.wsdot.wa.gov/aviation/planning

CalTrans, *Airport Land Use Planning Handbook:*
www.dot.ca.gov/hq/planning/aeronaut/htmlfile/landuse.php

Wisconsin, *Land Use Guide:*
www.dot.wisconsin.gov/library/publications/topic/air/landuseguide2000.pdf

FAA, *Land Use Compatibility and Airports*
www.faa.gov/about/office_org/headquarters_offices/aep/planning_toolkit/media/III.B.pdf

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